

# Vahid Reza Niazmand

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## Education

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### Bachelor of Engineering – Computer Software Engineering

Sep 2016-2021

Shiraz University, Shiraz, Iran

- Graduation Date: July 2021

Concentration: Deep Learning and Reinforcement Learning

Dissertation: Hybrid Recommender System, Supervisor: Dr. Reza Boostani

## Test Scores

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- IELTS Academic: Band 8 (Listening: 9, Reading: 8.5, Speaking: 7.5, Writing: 7)
- GRE General: 324 (Quantitative: 164, Verbal: 160)

## Research Interests

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Reinforcement Learning, Robotics, Computer Vision, A.I. in Healthcare

## Research Experience

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### Research Assistant

2021

Using Reinforcement Learning in controlling blood glucose level

Shiraz University, Shiraz, Iran

Supervisor: Dr. Ramin Vatankhah

- Collaborated with two other members of the team to develop a simulation environment based on blood glucose mechanical dynamic model in Python
- Trained and tested a RL agent based on **Normalized Advantage Functions** using **PyTorch** and Optuna
- Reviewed and summarized over 30 related and similar works

### Research Assistant

2020

Using Deep Learning and Matrix Factorization to develop a hybrid recommender system for movies ([link](#), [doc](#))

Shiraz University, Shiraz, Iran

Supervisor: Dr. Reza Boostani

- Conducted data cleaning and feature engineering on MovieLens dataset
- Performed **NLP** techniques (BoW, tf-idf, LSA) for feature encoding
- Trained and tested a neural network based on Google's "Deep and Wide" method to merge sparse and dense features

## Publications and Translations

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### Publications:

- Raheb, M. A., **Niazmand, V. R.**, Eqra, N., & Vatankhah, R. (2021). Subcutaneous insulin administration by deep reinforcement learning for blood glucose level control of type-2 diabetic patients. Journal of Artificial Intelligence in Medicine (Submitted for publication)
- Deep reinforcement learning for brain tumor size control. (Work in progress)

### Translations:

- Eck, N. J. V., VOSviewer Manual (2018)

## Selected Projects

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|--|-------------|
| • UC Berkeley Pacman game A.I. agent project series ( <a href="#">link</a> )           | <b>2021</b> |
| • Snake game Deep RL agent ( <a href="#">link</a> )                                    | <b>2020</b> |
| • Deep RL agent for a strategic game in Sharif A.I. Challenge ( <a href="#">link</a> ) | <b>2020</b> |

## Achievements and Awards

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|--|-------------|
| • Received grant as the top startup company in a fundraising event from Shiraz University                | <b>2021</b> |
| • Received grant as the top startup company in the field of publication from Iran's Ministry of Culture  | <b>2020</b> |
| • Ranked within the top 0.5 percent among 160,000 candidates in Iran's national university entrance exam | <b>2016</b> |

## Computer Skills

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- **Advanced Programming:** Python, JavaScript, MATLAB, HTML, CSS, PHP, SQL
- **Packages:** TensorFlow, Pytorch, Pandas, Numpy, OpenCV, React, React Native
- **Tools:** Git, VS Code, LATEX, Arduino IDE, Jupyter Notebook, Google Colab
- **Environments:** Windows, Ubuntu, MacOS, Android Studio, XCode, Oracle Virtual Box, VMWare Work Station
- **Digital designing:** Adobe XD, Adobe Illustrator, Blender 2.8 (3D)

## Professional Experience

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## UI/UX Designer | Front-end Developer

2019-2021

Ghasedak Group (Co-founded), Shiraz, Iran

- Developed android and ios mobile app using React Native
- Developed an admin panel using React
- Designed a user interface for a book store app using Adobe XD
- Designed 3D mockups using Blender 3D
- Designed digital assets using Adobe Illustrator and After Effects

## Language

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- Persian: Maternal
- English: Fluent (C1)
- German: Basic

## References

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**Dr. Reza Boostani**, Associate Professor

School of Electrical and Computer engineering

Shiraz University, [boostani@shirazu.ac.ir](mailto:boostani@shirazu.ac.ir)

**Dr. Ramin Vatankhah**, Associate Professor

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**Navid Egra**, Doctorate Student

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